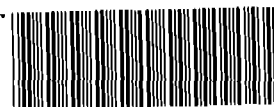




**Rocky Mountain
Remediation Services, L.L.C.**
... protecting the environment

Rocky Flats Environmental Technology Site
P.O. Box 464
Golden, Colorado 80402-0464
Phone: (303) 966-2678
Fax: (303) 966-8244



000064492

October 23, 1996

96-RF-06104
96-RM-ER-0195-KH

Mr. Steve Baker
Manager, Radiological Health
Kaiser-Hill Company
Rocky Flats Environmental Technology Site
P. O. Box 464
Golden, Colorado 80402

RADIOLOGICAL DEFICIENCY REPORT 96-545 - AMT-078-96

After reviewing the attached RDR, I want to correct the statements made in the RDR Attachment A referencing "RTG". The subcontractor, RTG, is not responsible for groundwater monitoring and was not involved in the activity referenced in this RDR. Harold Sanchez is not an employee of RTG.

After the RDR was written, the radiological operations foreman, Tim Hipsher, met with the three individuals from Tierra Environmental impacted by the RDR. He discussed with them the specific infractions to the RWP. The Tierra employees had misunderstood the requirements for conducting pre-job surveys at every entry into the radiological posted area. They had interpreted the requirement as being necessary for only the initial entry into the radiological work zone.

Subsequent to the initial meeting, Tim met and trained the Tierra field employees and the RMRS job supervisor on October 23, 1996, where he addressed the requirements of the radiological work permit. A copy of the attendance roster is attached. Specific areas addressed included what pre- and post-job surveys entail according to the radiological operations procedures, how soil contamination areas will be addressed in the future with regards to surveys, how to use the new RWP, what the proper frisking procedures are for equipment before leaving a radiologically posted area.

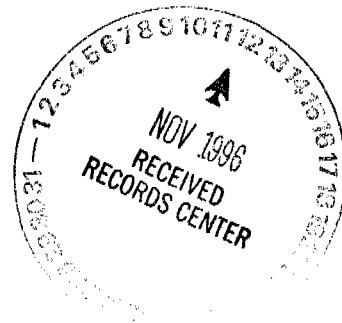
As a result of this one-on-one training provided by the radiological operations department in the mechanics of the RWP, I recommend that the two individuals, Tim Zimmerman and Edward Myers, have their dosimeters returned to them and that RDR 96-545 be closed without further action. I will appreciate your acknowledgment of this recommendation or identification of what other actions are necessary. I can be reached at 966-4829.

Ann M. Tyson
Vice President
Environmental Restoration

AMT:cb

Attachments:
As Stated

Concurrence by Mark S. Spears, Manager, Radiological Protection



ADMIN RECCO

BZ-A-000504

(Use black ink only)

**Note: Only originals of rosters and tests are acceptable to PTR.
Initial any corrections or deletions.**

Number Scheduled 6
Number Attended 6
Course Coordinator _____
Course Coord. Ext. _____
Instructor Thibber
Instructor Ext. 2397

Total Trainee Hours 142 Passing Grade = NA %

Instructor's Signature _____

RADIOLOGICAL DEFICIENCY REPORT

Rocky Flats Environmental Technology Site

RDR #: 96-545

Commitment #

Page 1 of 2

1. ORIGINATOR:

Name: Stephen Cox	Employee #	Organization / Company: KH	Signature: [Signature]	Ext/Page: 2397/2097
Job / Classification: RCT	Building / Location: 903 Rd / 88 Hills	Building: 849	Report Time / Date: 10/10/96	Report Time / Date: 10/10/96
Event Time / Date: 0830-1000 10-8-96	Description of radiological posting(s): SEE ATTACHMENT A			
Protective clothing worn: Tyvek gloves (rubber) / Booties /				
Evolution(s) in progress: Ground water sampling				
Individuals Involved: (When this section is completed, this form becomes SENSITIVE INFORMATION under the Privacy Act).				
Name: JIM ZIMMERMAN	Employee #:	Organization: RMRS/TIERRA	Job / Classification: TECH	Supervisor: Steve Singer
EDWARD MOYERS		RMRS/TIERRA	TECH	Steve Singer
Description of Deficiency: (Include documentation; RWP's, radiological survey results, etc.):				
SEE ATTACHMENT A				

Immediate Corrective Actions: Notified Supervision, Initiated RDR, Surveyed 903 Rd Wellheads

2. RO FOREMAN REVIEW:

Name: [Signature]	Employee #:	Signature: [Signature]	Date: 10/8/96
-------------------	-------------	------------------------	---------------

3. FACILITY MANAGER:

Name:	DOE CATEGORIZATION: <input type="checkbox"/> Unusual Occurrence <input type="checkbox"/> Emergency <input type="checkbox"/> Off - Normal <input type="checkbox"/> Internally Reportable <input type="checkbox"/> Not Applicable
Occurrence Report #	Signature: [Signature]

4. RESPONSIBLE MANAGER:

Name:	Employee #:	Director Name:	Signature:	Target completion date:	Date:	Revised date:
Completion Summary:						
Apparent Cause Category: <input type="checkbox"/> Personnel <input type="checkbox"/> Procedure <input type="checkbox"/> Management System <input type="checkbox"/> Equipment <input type="checkbox"/> Training <input type="checkbox"/> Planning <input type="checkbox"/> Communications <input type="checkbox"/> Other						
I have corrected this RDR and recommend close out. Name: [Signature] Date:						

5. RDR ADMINISTRATOR:

Actions have been reviewed, close out is: <input type="checkbox"/> Satisfactory, <input type="checkbox"/> Unsatisfactory, <input type="checkbox"/> Returned to the Responsible Manager (Date:)	
Name:	Employee #
Signature: [Signature] Date: (10/1/96)	

Individuals Involved: (When this section is completed, attach a list of names of individuals involved in the investigation.)

Name: Harold Sanchez

Employee #: [REDACTED]

Organization: RTG

this form becomes SENSITIVE INFORMATION
Employee #:

under the Privacy Act).
Job / Classification: **1122**

Supervisor:

Description of Deficiency: (Include documentation; RWPs, radiological survey results, etc.):

Immediate Corrective Actions:

Completion Summary:

General Comments:

RF- 47430(a)

On 10-08-96 at 0930, I, Stephen Cox of KH Radiological Protection, witnessed two RMRS/Tierra workers walking across the 903 Pad. The two workers proceeded down the hillside crossing a radiologically posted boundary fence without being monitored by a Radiological Control Technician (RCT). At that point, I approached the two workers and asked to see their Radiological Work Permit (RWP) and if they had an RCT to monitor them out of the posted area. The workers said a Health and Safety Specialist (H&SS) subcontractor was on the way. When the Research Technologies Group (RTG) H&SS showed up, he, Harold Sanchez, started to monitor the two workers. During the monitoring, hand carried items were taken out of the posted area before the swipes were counted for removable contamination to ensure the items did not exceed the unrestricted release limits of HSP 18.10. One of the items was a spool that appeared to be a tape measure. The RTG H&SS did not swipe the entire tape to ensure no contamination existed on the inner parts of the tape. In addition, the RTG H&SS never took the worker's radio out of the carrier pouch to swipe the radio. After the first worker was monitored out of the area, he showed me the RWPs that they were working on. The RWP numbers were 95-549-1025 and 95-549-1026 (see attachments B and C). I reviewed the RWPs and found that Edward Myers was signed in on both RWPs at the same time. In addition, no pre-job surveys were performed for the area the two workers were working in. The RWP suspension limits called for the work to stop if limits exceeded 20 dpm alpha removable, but since the RTG H&SS did not perform any monitoring prior to or during the work evolution, the workers would not have known if the suspension guide limits had been exceeded. The 903 Pad is posted as follows: **UNDERGROUND RADIOACTIVE MATERIAL AREA, SOIL CONTAMINATION AREA, RWP REQUIRED, CONTACT RADIOLOGICAL OPERATIONS BEFORE ENTERING.**

RADIOLOGICAL WORK PERMIT

RWP TYPE: **GENERAL**

Rocky Flats Environmental Technology Site

RWP NO: **95-549-1025**

Specific Task of Operation

Date: **10/12/95**

RCRA -GROUND WATER MONITORING AND WELL SAMPLING IN IDENTIFIED AREAS AND IHSS'S WITH RADIOLOGICAL CONTAMINATION IN THE SOIL SITE MATERIAL - 903 PAD AND LIP AREA.

WO/PROCEDURE#
GW #1 REV 2
GW #6 REV 2
GROUND SAMPLING

Location: Bldg **T8910** Rm _____
Area: **CONTRACTORS YARD**
WORK AREA 903 PAD AND LIP

Supervisor: Phone **8635**
Name: **STEVE SINGER**
Empl # **[REDACTED]**
Department: **GROUND WATER**

RWP Starts _____ RWP Ends _____
Date **10/12/95** Date **10/12/96**
Time **0800** Time **0800**

REQUIREMENTS

Protective Clothing _____
XX Modesty Clothing
_____ Rubber Gloves
(1)X Surgeon Gloves
 2 pair
(2)X Work Gloves
 NITRO type
_____ Cotton Glove Liners
_____ Shoe Covers
XX Rubber Overshoes
XX Anti-C Coveralls
 TYVEX type
_____ Hood
_____ type
_____ Other

Respiratory _____
(3)X Full Face, Particulate
_____ Full Face, Airline
_____ Supplied Air Suit
_____ Portable SAAM
(4)X Air Sample
Containment _____
_____ Pen
_____ Tent
_____ Point Source
_____ Air Mover
_____ HEPA Vacuum
ALARA REVIEW REQUIRED
 Y _____ N _____

PRE-JOB BRIEF REQUIRED **NO**
POST JOB REVIEW **NO**

Dosimetry _____
XX TLD _____ SRD
_____ Other
DO NOT EXCEED
_____ mRem/RWP

Bioassay: **N/A**

Rad Ops Coverage: **Oncall**

Rad Worker Quals:

RAD WORKER II

RADIOLOGICAL CONDITIONS

	CONTAMINATION LEVELS (DPM/100CM2)
	FIXED REMOVABLE
ALPHA	<20 DPM <20 DPM
BETA/	
GAMMA	N/A N/A

AIRBORNE RADIOACTIVITY LEVELS
DAC Pu N/A
DAC U N/A

PENETRATING RADIATION RANGE
Gamma: 0 TO <0.5 mrem/Hr
Neutron: 0 TO <1.0 mrem/Hr

RWP SUSPENSION GUIDE LIMITS:

IF LEVELS ARE EXCEEDED, STOP WORK NOTIFY RAD PROTECTION

RADIATION LEVELS: **AREA DOSE RATE >100 MREM/HR**

CONTAMINATION LEVELS: **>20 DPM/100CM2 ALPHA REMOVABLE**

AIRBORNE RADIOACTIVITY LEVELS: **>0.1 DAC**

SPECIAL PRECAUTIONS, DOSE/CONTAMINATION REDUCTION CONSIDERATIONS:

- (1) SURGEONS GLOVE CAN BE WORN IN PLACE OF RUBBER GLOVES
- (2) NITRO GLOVES MUST BE WORN DURING SAMPLING AND WATER LEVEL MEASUREMENTS
- (3) FULL FACE RESPIRATOR REQUIRED IF AIR MONITORING DICTATES.
- (4) AIR MONITORING REQUIRED DURING DIGGING OPERATIONS.

APPROVAL SECTION:

ALARA JOB REVIEW # _____

RAD-OPS SUPERVISOR **[Signature]**

DATE: **10/12/95**

JOB SUPERVISOR _____

DATE: _____

RAD-ENGINEERING _____

DATE: _____

OTHER _____

DATE: _____

RADIOLOGICAL WORK PERMIT

RWP TYPE: **GENERAL**

Rocky Flats Environmental Technology Site

RWP NO: 95-549-1026

Specific Task of Operation

Date: 10/12/95

RCRA - GROUND WATER MONITORING AND WELL SAMPLING IN

IDENTIFIED IHSS AND OTHER AREAS WITH RADIOLOGICAL

CONTAMINATION IN LSITE MATERIAL (AMZONE) POSTED AREAS ONLY

WO/PROCEDURE#

GW #1 REV 2

GW #6 REV 2

GROUND SAMPLING

Location: Bldg T8910 Rm

Supervisor: Phone 8635

RWP Starts

RWP Ends

Area: CONTRACTORS YARD WORK

Name: STEVE SINGER

Date 10/12/95

Date 10/12/96

AREA, AM ZONE, EAST

Empl #

Time 0800

Time 0800

SPRAY ZONE, 881 HILLSIDE

Department: GROUND WATER

REQUIREMENTS

Protective Clothing

XX Modesty Clothing

Rubber Gloves

(1)X Surgeon Gloves

2 pair

(2)X Work Gloves

NITRO type

Cotton Glove Liners

XX Shoe Covers

XX Rubber Overshoes

Anti-C Coveralls

type

type

Other

Respiratory

(3)X Full Face, Particulate

Full Face, Airline

Supplied Air Suit

Portable SAM

(4)X Air Sample

Containment

Pen

Tent

Point Source

Air Mover

HEPA Vacuum

ALARA REVIEW REQUIRED

Y N

PRE-JOB BRIEF REQUIRED NO

POST JOB REVIEW NO

Dosimetry

XX TLD SRD

Other

DO NOT EXCEED

mRem/RWP

Bioassay: N/A

Rad Ops

Coverage: Oncall

Rad Worker Quals:

RAD WORKER II

RADIOLOGICAL CONDITIONS

CONTAMINATION LEVELS (DPM/100CM2)

FIXED

REMOVABLE

ALPHA <20 DPM

<20 DPM

BETA/

GAMMA N/A

N/A

AIRBORNE RADIOACTIVITY LEVELS

DAC Pu N/A

DAC U N/A

PENETRATING RADIATION RANGE

Gamma: 0 TO <0.5 mrem/Hr

Neutron: 0 TO <1.0 mrem/Hr

RWP SUSPENSION GUIDE LIMITS:

IF LEVELS ARE EXCEEDED, STOP WORK NOTIFY RAD PROTECTION

RADIATION LEVELS: AREA DOSE RATE >100 MREM/HR

CONTAMINATION LEVELS: >20 DPM/100CM2 ALPHA REMOVABLE

AIRBORNE RADIOACTIVITY LEVELS: >0.1 DAC

SPECIAL PRECAUTIONS, DOSE/CONTAMINATION REDUCTION CONSIDERATIONS:

(1) SURGEONS GLOVE CAN BE WORN IN PLACE OF RUBBER GLOVES

(2) NITRO GLOVES MUST BE WORN DURING SAMPLING AND WATER LEVEL MEASUREMENTS

(3) FULL FACE RESPIRATOR REQUIRED IF AIR MONITORING DICTATES

(4) AIR MONITORING REQUIRED DURING DIGGING OPERATIONS

APPROVAL SECTION:

ALARA JOB REVIEW #

RAD-OPS SUPERVISOR

DATE:

JOB SUPERVISOR

DATE:

RAD-ENGINEERING

DATE:

OTHER

DATE:

RWP #: 95-549-1026
neutron/gamma ratio: _____

By signing this roster, I acknowledge that I have read and understand the requirements of the GWP and will comply with those requirements.

Code:	Calculating dose:	gamma dose = Sd(DRD) Out - Sd(DRD) In
0 = Not Applicable	3 = Wore In-line full-face respirator	neutron dose = gamma dose x neutron/gamma ratio
1 = Wore full-face respirator	4 = Wore lapel air sampler	Total dose = gamma dose + neutron dose
2 = Wore Premix Airline Respirator	5 = body counter/internal dosimetry	

Maintain roster with governing RWP. Job Supervisor; return this roster to Radiological Operations on a daily basis.

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